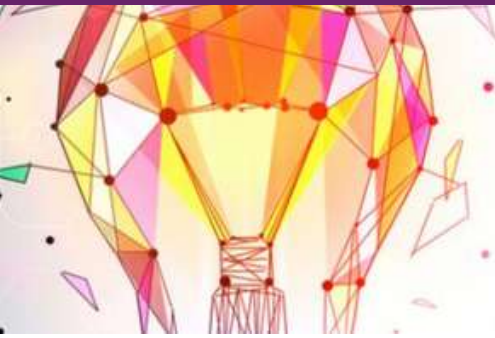# VIDYUT

NEWSLETTER FOR DEPARTMENT OF ELECTRICAL ENGINEERING

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"Winners Never Quit & Quitters Never Win"

Vince Lombardi

From HOD Desk

Dear Friends,

It's immense pleasure to present this biannual newsletter "Vidyut". Electrical Engineering department is the dynamic and vibrant department with the blend of young and experienced Faculty. Department is actively involved in academic as well as research work in current areas of Electrical Engineering and multi-disciplinary streams. The department has well-equipped labs with the state of the art software, hardware, and machinery. The faculty members are constantly publishing technical papers in national and international journals and conferences. Also, they are involved in consultancy activities. The department is fortunate to have dedicated teachers, devoted students, and committed supporting staff and expert technical staff. Especially, I congratulate my students to participate in various extra-curricular activities, research work, and competitive exams. My best wishes to all for their bright carrier and successful life.

Dr. V. N. Kalkhambkar

Vision, Mission & PEOs

Vission

Develop globally competent electrical engineers to serve future needs and challenges of the society.

Mission

- To inculcate teaching and learning processes to promote state-of-the-art service in electrical industries to address local and global challenges.
- To integrate academics, research, and entrepreneurship skills in the domain of electrical engineering to address the present and future challenges of society.
- To develop professionalism with strong foundations in adopting change in environmental technology.

Programme Educational Objectives(PEOs)

PEO 1: Apply knowledge and skills to pursue successful career in power sector, manufacturing and process industries.

PEO 2: Utilize expertise to become an academician, practicing engineer and entrepreneur to serve the society, ethically and responsibly with concern to environment.

PEO 3: Engage in lifelong learning to seek excellence in professional life.

Department of Electrical Engineering

BRIEF ABOUT DEPARTMENT:

The Department of Electrical Engineering (EE) at RIT is established in 2004 with an intake of 60 at UG and in 2011 with an intake of 18 at PG and is evolving since its inception. The major objective of the department is to impart high-quality education and to encourage the students of B. Tech, and M. Tech in pursuing research. The department offers B. Tech in Electrical Engineering, and one M. Tech program in Power Systems and Power Electronics. The major areas of the department include Power Systems and Power Electronics, Control Systems and Instrumentation, Electric Drives an Renewable Energy Systems The department has well-equipped specialized laboratories, such as 'Automation & control' equipped with PLC trainer, SCADA & HMI, E-Yantra a central facility located in the department, along with all required preliminary and basic laboratories. The Department has an access to IEEE Explore digital library, IEL, Science Direct, Springer, and other online journals. High End Computational Servers and Software like MATLAB, GAMS, CYME, ETAP, and MiPower. Modern tools are available in the Department in order to accelerate the research. A biannual Newsletter-'Vidyut' is published by Department. Apart from academics, the department is involved in consultancy projects like energy auditing work to cater to the needs of local industries. Also promotes the use of renewable energy.

> "Don't be afraid of the space between your dreams and reality. If you can dream it, you can make it so."
>
> **-BELVA DAVIS**

One of the strengths of the Departments paper publication in reputed journals, international & national Conferences by faculty, PG, and UG students. The main features are MOU's with different industries, Industry–Institute interaction for training as well as placement activities, GATE coaching & Guest Lectures. The scope of employment is in various organizations like the TATA Power, GSW, Bharat Forge Ltd., Siemens and Syntel, TCS, Cognizant, KPIT, Capgemini, Wipro, HCL technology, SLK software, torrent power, and Government and semi–government organizations like DRDO, ISRO, PGCL, Railway, Mahadiscom, Mahatransco, and Mahagenco Pvt. Ltd.

ACADEMIC PROJECTS

1

PROJECT NAME -

Autonomous Vehicle Driving Assisting System

FACULTY NAME -

Dr. V. N. Kalkhambkar

2

PROJECT NAME -

Regenerative Braking System of BLDC motor using Battery and Supercapacitors

FACULTY NAME -

Dr. V. N. Kalkhambkar

3

PROJECT NAME -

Design and development of BLDC motor controller for EV applications

FACULTY NAME -

Dr. D. B. Talange

4

PROJECT NAME -

Under ground cable fault detection

FACULTY NAME -

Dr. P. K. Katti

5

PROJECT NAME -

Assessment of 300kWp rooftop solar PV plant and Application of Multicriteria decision making to solar PV system

FACULTY NAME -

Dr.H.T.Jadhav

6

PROJECT NAME -

Design and Simulation of Mounted Kit for Drone System

FACULTY NAME -

Dr.P.P.Gupta

7

PROJECT NAME -

Smart GSM based Speed control of DC motor and Home Automation System

FACULTY NAME -

Dr.Sujil .A

8

PROJECT NAME -

Design and development of GSM and microcontroller based 3 ph fault analysis system

FACULTY NAME -

Dr. A.R.Thorat

9

PROJECT NAME -

IOT Covid patient health monitor in quarantine

FACULTY NAME -

Dr. A.R.Thorat

ACADEMIC PROJECTS

UNDER GRADUATE (UG)

10
PROJECT NAME -

social distance monitoring robot

FACULTY NAME -

Prof. Y.N. Bhosale

11
PROJECT NAME -

IoT based automatic mocktail maker

FACULTY NAME -

Dr. D. B. Talange

12
PROJECT NAME -

PV based Grid connected EV Charging system using MATLAB simulink environment

FACULTY NAME -

Prof. A.S. Pandey

13
PROJECT NAME -

The Virtual Electrical Machine Lab Using MATLAB App Design

FACULTY NAME -

Prof. S P Burud

14
PROJECT NAME -

IOT based Automatic Drip Irrigation System

FACULTY NAME -

Prof. V. B. Patil

15
PROJECT NAME -

Comparative Analysis of Multilevel inverter Topologies

FACULTY NAME -

Prof.K.M.Nathgosavi

16
PROJECT NAME -

Development of Combined Controller for Motor and String Control of AGV

FACULTY NAME -

Prof. S. S. Kumbhar

17
PROJECT NAME -

Renewable Energy Integration with Plug In EV & Charging Station

FACULTY NAME -

Prof. A. J. Patil

18
PROJECT NAME -

High Voltage gain DC -DC Converter using active switched LC network for PV applications

FACULTY NAME -

Prof.Kedar Kulkarni

ACADEMIC PROJECTS

POST GRADUATE (PG ONGOING)

1

PROJECT NAME -

Charging Station Placement for Electric Vehicle

FACULTY NAME -

Dr. V. N. Kalkhambkar

2

PROJECT NAME -

Study of Stochastic Scheduling of Energy Storage Transportation with Renewable Power Generation

FACULTY NAME -

Dr. Pranda Prasanta Gupta

3

PROJECT NAME -

EV Propulsion through Hybrid Energy Storage System

FACULTY NAME -

Dr. P. K. Katti

4

PROJECT NAME -

Intelligent Charger for Electric Vehicle

FACULTY NAME -

Dr. P. K. Katti

5

PROJECT NAME -

Study of electric vehicle charging station and its impact on grid

FACULTY NAME -

Dr. Sujil A

6

PROJECT NAME -

Design and development of a controller for BLDC motor

FACULTY NAME -

Dr. D. B. Talange

"In the middle of difficulty lies opportunity."

Albert Einstein

ARTIFICAL INTELLIGENCE

OM TANAJI KORAVI (2108049) :

Technological innovation has changed the way we do many of our day-to-day tasks. From going to the store to researching a new medicine or communicating with friends, if we didn't have the technology that we have today, we would be doing it all differently. In the world of finance, technology has changed quite a bit as well. After all, if it wasn't for the internet, we would still be writing checks and forced to go to a bank when we wanted to invest. Now, there's a new wave of technology, and it is leading to yet another evolution in how we do things. That new wave is artificial intelligence (AI).

What is artificial intelligence?
Artificial intelligence is defined as : The theory and development of computer systems able to perform tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages. Essentially, artificial intelligence is a technology that shows some sign of intelligence by completing a task or a multitude of tasks that generally require human intervention. In terms of the investing community, artificial intelligence is known for finding buying or selling signals in the market, researching market data, and more.

AI in the investing world
As the internet has led to an evolution in how we invest, artificial intelligence seems to be doing the same thing. Here are just a few examples of how that's happening

> "Some people don't like change, but you need to embrace change if the alternative is disaster"

Elon Musk
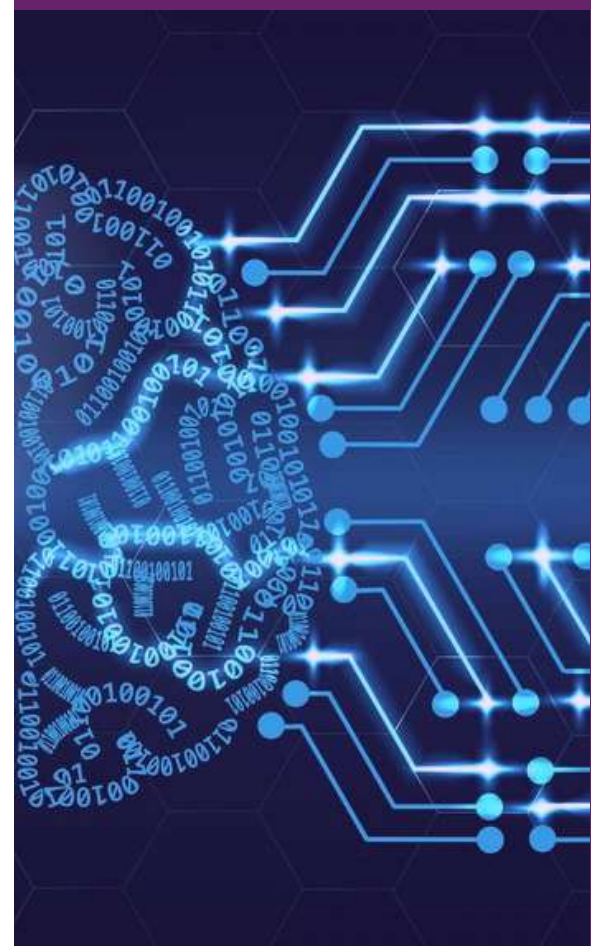
ARTIFICAL INTELLIGENCE

OM TANAJI KORAVI (2108049)

: Providing real-time data AI is being used to provide data in ways that only humans could in the past. In fact, new AI, known as Ted, was launched last week. Ted combs through the available financial data online for tickers. Once he combs through the data, Ted writes an article and publishes it for the world to see. Providing alerts: Another way that AI is being used to generate gains in the market is through alerts. Trade Ideas has an AI named Holly. Holly is an AI that looks at what happened in the market when it closes. She looks through social, fundamental and technical data and builds multiple strategies around it. The following day, strategies with an expected success rate of 60% or above and a profit factor of two-to-one are given to users.

Services to institutions: AI is even being used by big banks to provide services to their institutional clients. In fact, through algorithm-based AI, the largest bank in Japan is providing services to its institutional customers.

The evolution is only beginning

The truth is that AI technology is still quite young. As such, we have not unlocked all of the secrets, capabilities and implications of this revolutionary technology. Who knows -- one day, we might just tell an AI to do our investing for us with incredible success. After all, it is already leading to cars that can drive us to the store while we watch a movie. When it comes to the financial world, we could be looking at investing very differently 10 years from now as a result of the introduction of AI into the space.

Final thoughts

As with the internet, artificial intelligence has the potential to change how we do many things in our lives. We are already seeing the use of the technology in the financial industry, and that use is likely to grow going forward. It will be exciting to see how advancements in AI lead to a better understanding of the market, and therefore, larger gains for investors and traders alike.

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"When something is important enough, you do it even if the odds are not in your favor"

Elon Musk
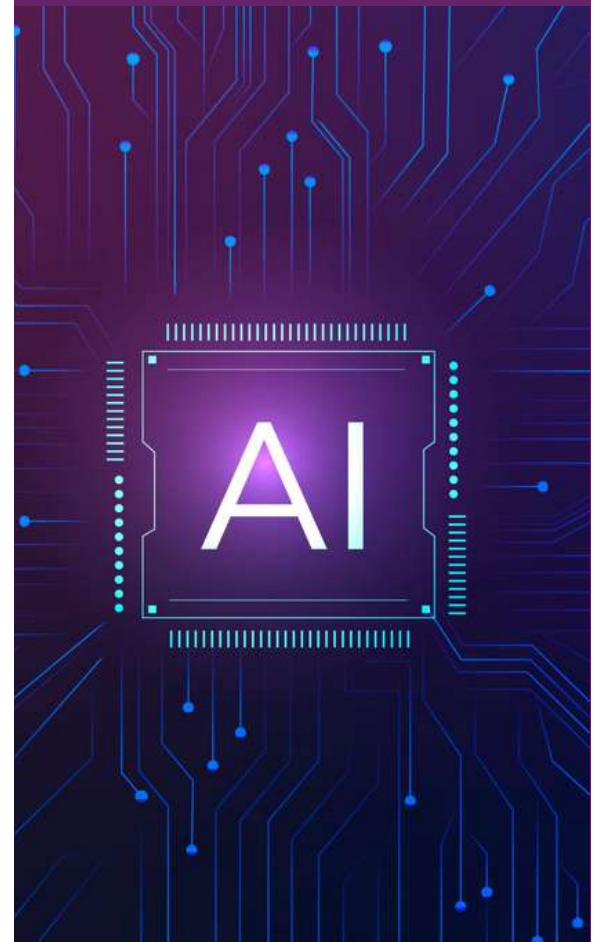
DEPARTMENT OF EE

PROGRAMS & PUBLICATIONS

Guest lecturers organized by department of electrical

PAPER PUBLICATION

INTERNATIONAL JOURNAL   : 05

INTERNATIONAL CONFERENCE : 02

SEMINAR / WORKSHOP/ CONFERENCE

SEMINAR (WEBINAR)   : 04

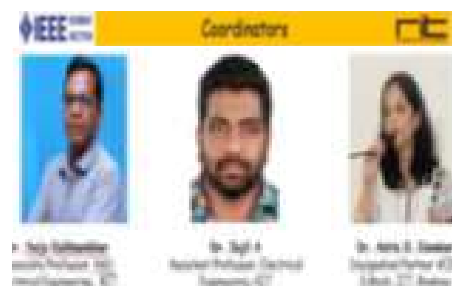WORKSHOP   : 18

TRAINING PROGRAM   : 03

SEMINAR (WEBINAR)/ WORKSHOP/ CONFERENCE CONDUCTED:

SUBJECT: Emerging Trends in Electric Vehicles and Infrastructure Development

One Week Virtual Faculty Development program

DURATION :
12 – 17th, July, 2021

Dr. V. Kalkhambkar, Dr. Sujil A.
(under IEEE)

PROGRAMS & PUBLICATIONS

Guest lecturers organized by department of electrical

SEMINAR (WEBINAR)/ WORKSHOP/ CONFERENCE CONDUCTED:

SUBJECT: Restructured Power System: Operation and Planning

One Week Virtual Faculty Development program

DURATION :
23 – 28th, August, 2021

Dr. V. Kalkhambkar, Dr. Sujil A., Dr. P. P. Gupta (under IEEE):
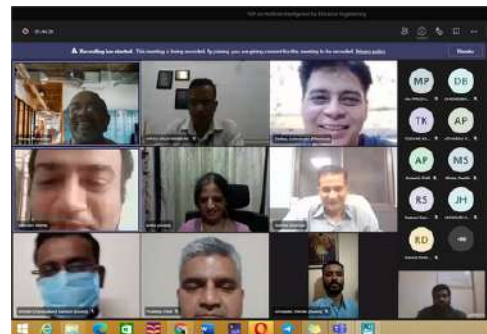
SEMINAR (WEBINAR)/ WORKSHOP/ CONFERENCE CONDUCTED:

SUBJECT: Artificial Intelligence for Electrical Engineering

One Week Virtual Faculty Development program

DURATION :
04 – 08th, October, 2021

Dr. V. Kalkhambkar, Dr. Sujil A. (under IEEE

EESA

Electrical Engineering Students association (EESA)

The Electrical Engineering Students'Association (EESA) represents students within the Electrical Engineering department. EESA is an initiative by the students, for the students.

Goal:

The main purpose of the EESA is to provide a variety of educational experiences that will encourage organization members to broaden their knowledge and increase their enthusiasm for their chosen occupational areas (i.e. occupational related field trips, seminars, etc.).

Objectives:

- **To** provides opportunities for social interaction among organization members.
- To Conduct various events like seminars, industrial visits, guest lectures, soft-skills development programs, fresher's party etc. and also technical and nontechnical events for assisting students.
- To Increase knowledge and skills in planning, delegating, decision making.
- To develop a more positive and realistic attitude toward themselves, their peers and the college.

Short Speech Video Competition
EESA has organized Short Speech Video Competition on "Online Education Pro's and Con's" on 22nd Sept. 2021.

EESA ACTIVITIES

Fresher's Party

EESA has organized fresher's party to welcome precious juniors on 11/12/2021 at 03.00 pm. On that day various types of happy and entertaining events organized to make our juniors happy. Also an arrangement has been done for some delicious refreshments and surprise gifts to make participants delighted.

EDITORIAL BOARD

Dr. V. N. Kalkhambkar
Head Of Department

Dr. Sujil A
Editor in Chief

This newsletter has covered all the events from July 2021 to December 2021 which were organized in and by Electrical Engineering Department.
We are here going to invite suggestions for improvement, if any, with warm regards.

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